

**LISTING OF THE CLAIMS**

1. (Canceled).
2. (Canceled).
3. (Canceled).
4. (Canceled).
5. (Canceled).
6. (Canceled).
7. (Canceled).
8. (Canceled).
9. (Canceled).
10. (Canceled).
11. (Canceled).
12. (Canceled).
13. (Canceled).
14. (Canceled).
15. (Canceled).

16. (Canceled).

17. (Canceled).

18. (Canceled).

19. (Canceled).

20. (Previously presented) A leak detector comprising:  
an inlet;  
a high-vacuum pump;  
a test gas detector connected to an inlet of the high-vacuum pump;  
a backing pump connected to an outlet area of the high-vacuum  
pump; and  
a test gas line running between the inlet of the leak detector and the backing  
pump, said test gas line being connected to the outlet area of the high-vacuum pump  
via a line section and in which the line section and the backing pump are connected via  
separate connection ports to the outlet area of the high-vacuum pump.

21. (Previously presented) A leak detector in accordance with Claim 20,  
wherein an outlet chamber located within a housing of the high-vacuum pump forms the  
outlet area of the high-vacuum pump and where the housing of the high-vacuum pump  
is equipped with said two separate connection ports that are connected to the outlet  
chamber.

22. (Previously presented) A leak detector in accordance with Claim 21,  
wherein the outlet chamber is located in the vicinity of a chassis of the high-vacuum  
pump.

23. (Previously presented) A leak detector in accordance with Claim 22, wherein the high-vacuum pump is a single flow design and where an inlet flange and the chassis of the high-vacuum pump oppose one another.

24. (Previously presented) A leak detector in accordance with Claim 21, wherein the outlet chamber has the shape of an annular channel.

25. (Previously presented) A leak detector in accordance with Claim 20, wherein the high-vacuum pump is a turbomolecular vacuum pump.

26. (Previously presented) A leak detector in accordance with Claim 25, wherein the turbomolecular vacuum pump is equipped with at least one additional gas inlet.

27. (Previously presented) A leak detector in accordance with Claim 25, wherein the turbomolecular vacuum pump is equipped with at least two additional gas inlets.

28. (Previously presented) A leak detector in accordance with Claim 27, wherein there is provided at the same level as one of said additional gas inlets, a further connection port that is linked to the backing pump.

29. (Previously presented) A leak detector in accordance with Claim 20, wherein the high-vacuum pump is a compound vacuum pump having a turbomolecular stage and a molecular pumping stage.

30. (Previously presented) A leak detector in accordance with Claim 29, wherein at the level of the turbomolecular pumping stage, an additional test gas inlet is provided.

31. (Previously presented) A leak detector in accordance with Claim 29, wherein at the level of the molecular pumping stage, preferably at half the height of this stage, a test gas connection port is provided.

32. (Previously presented) A leak detector in accordance with Claim 31, wherein at the same level as the test gas connection port, an additional connection port is provided which is linked to the backing pump.

33. (Previously presented) A leak detector in accordance with Claim 32, wherein an annular channel is located at the level of the additional test gas connection ports.

34. (Previously presented) A leak detector in accordance with Claim 29, wherein the molecular pumping stage is of a multi-stage design.

35. (Previously presented) A leak detector in accordance with Claim 34, wherein there is connected to a first molecular pumping stage with a pumping action axially in the direction of the chassis, a second molecular pumping stage which has an opposing direction of the pumping action such that the outlet area of the high-vacuum pump has a distance from the chassis and is connected through an annular chamber to the connection port to which the backing pump is connected and where also the connection port connected via the valve with the test gas line is connected to the annular chamber.

36. (Previously presented) A leak detector in accordance with Claim 35, wherein the outlet area of the high-vacuum pump is defined by a substantially cylindrical chamber into which the second molecular pumping stage opens out and which is connected to the annular chamber.

37. (Canceled)

38. (Previously presented) A leak detector in accordance with Claim 32, wherein each of said connection ports located at the same height are arranged with respect to the longitudinal axis of the high-vacuum pump on the side and form an angle ranging between 35° and 180°.

39. (Previously presented) A leak detector in accordance with Claim 38, wherein the connection ports oppose each other.